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United States Patent [19]**Kozik et al.**[11] **Patent Number:** **5,149,918**[45] **Date of Patent:** **Sep. 22, 1992**[54] **TOUCH SENSITIVE OVERLAY**[75] **Inventors:** **Andrew F. Kozik; Dennis M. Taylor,**
both of Charlotte, N.C.[73] **Assignee:** **International Business Machines Corporation,** Armonk, N.Y.[21] **Appl. No.:** **620,186**[22] **Filed:** **Oct. 29, 1990**[51] **Int. Cl.⁵** **G08C 21/00**[52] **U.S. Cl.** **178/18**[58] **Field of Search** 178/18, 19, 20;
340/712, 706[56] **References Cited****U.S. PATENT DOCUMENTS**

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[57]

ABSTRACT

An apparatus having a signal conducting line with first and second ends is provided. The signal conducting line is configured to allow changes of impedance at space locations therealong. The signal conducting line is supported by a substrate. A signal generator is operably connected to the first end of the signal conducting line, the signal generator generating a measuring signal along the signal conducting line. The measuring signal has a predetermined characteristic, over a plurality of time intervals, when the measuring signal is undisturbed. When a disturbance is created in the measuring signal by, for example, the touching of the signal conducting line by a fingertip, the characteristic of the measuring signal varies from a predetermined deviation. Processing circuitry is operably connected to the first end of the signal conducting line so that the time interval at which the measuring signal is disturbed can be determined. The processing circuit includes a correlating circuit, which correlating circuit corresponds the time interval with one of the spaced locations.

18 Claims, 6 Drawing Sheets